REMARKS/ARGUMENTS

Request for Continued Examination:

The applicant respectfully requests continued examination of the above-indicated application as per 37 CFR 1.114.

Claims 1-23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (US 5,832,000, "Lin" hereinafter) in view of Lundby (US 6,856,604) and Arnold (US 2003/0224729).

Response:

Claim 1 has been amended to clarify the claimed invention. Claim 1 now recites the features of:

providing a first peer and a second peer;

successively transmitting a first predetermined number of more than one identical copies of a data block with a first transmitter of the first peer;

receiving at least two of the first predetermined number of identical copies of the data block with a second receiver of the second peer;

combining more than one corrupted received data blocks to form a complete copy of the data block at the second receiver of the second peer;

transmitting a response to the first peer when reconstructing a complete instance of the data block at the second receiver with a second transmitter of the second peer; and

not transmitting a negative acknowledgement to the first peer when receiving corrupted received data block at the second receiver with the second transmitter of the second peer.

Support for the amendments to claim 1 is found in Figures 7 and 8 of the instant application, and no new matter is added.

The applicant would like to comment on the Examiner's rejection of claim 1

below. The Examiner has stated that Lin discloses "*providing a first peer (Fig. 1, base station 116) and a second peer (Fig. 1, SCU 122); successively transmitting a first predetermined number of more than one identical copies of a data block (Fig. 4,402) with a first transmitter (Fig. 2, transmitter 202) of the first peer*".

However, Lin teaches that Lin's message 402 is the original message or data block (see Lin: column 3, line 7). Lin does not disclose "successively transmitting a first predetermined number of more than one identical copies of a data block…."

The Examiner also states that Lin discloses "*receiving at least two of the first predetermined number of identical copies of the data block (Fig. 4, 402) with a second receiver (Fig. 3, receiver 304) of the second peer*".

In fact, Lin only receives an error-tolerant message (422 and step 602), and uses error-tolerant message 422 to perform an inverse error-correction algorithm repeatedly to get the reconstructed original message (402). Note that error-tolerant message 422 is only transmitted once so that the error-tolerant message 422 can be received only once in Lin. Therefore, Lin does not disclose "receiving at least two of the first predetermined number of identical copies of the data block…."

The Examiner goes on to say that Lin discloses "*combining more than one corrupted received data blocks to form a complete copy of the data block (Fig. 4, error-tolerant message 422, column 4, line 17) at the second peer*".

Lin discloses that message 422 is an error-tolerant message, and therefore there is no need to combine more than one corrupted received data blocks. In other words, even if the error-tolerant message 422 is corrupted, Lin can reconstruct the original message 402 from the corrupted error-tolerant message

422 by an inverse error-correction algorithm (steps 604 and 608). Therefore, Lin does not disclose "combining more than one corrupted received data blocks to form…."

The Examiner has stated that Lin discloses "*transmitting a response to the complete instance of the data block with a second transmitter of the second peer (reconstruction of the original message with the SCR 122 transmitting the message redundancy, column 4, lines 28-30)*".

To clarify this point, the applicant has amended claim 1 to read "transmitting a response to the first peer when reconstructing a complete instance of the data block at the second receiver with a second transmitter of the second peer". Lin discloses that the SCR 122 reconstructs the original message, which is performed at the SCR 122 (the second peer), but this does not imply that the SCR 122 (the second peer) transmits a response to the base station 116 (the first peer), as is claimed in the currently amended claim 1.

The Examiner has stated that Lin discloses "*not transmitting a negative acknowledgement when receiving corrupted received data block with the second transmitter of the second peer (operating system of the 5CR 122 where the error tolerant message is not adequate for transmitting, column 3, lines 44-50)*".

To help clarify this claimed feature, the applicant has amended claim 1 to read, "not transmitting a negative acknowledgement to the first peer when receiving corrupted received data block at the second receiver with…."

In column 3, lines 44-50, Lin says, "*Any one of these software applications, is expected to far exceed 4000 bytes in length. Hence the present method used by prior art systems in which an information dispersal algorithm is applied once to an original message for transmitting error-tolerant messages is not adequate for*

transmitting long messages in a radio communication system with a high bit-error rate." These two sentences do not relate to the claimed feature in claim 1 of not transmitting a negative acknowledgement. (Note that a simplest way of an information dispersal algorithm is to repeat each bit, say, three times so that if one bit is corrupted the original bit can still be reconstructed back successfully. With this understanding, "information dispersal algorithm not adequate" has nothing to do with "not transmitting a negative acknowledgement".)

In fact, in column 3 lines 60-65, Lin says, "*Even in a two-way communication system, where the capability is available for the SCR's 122 to request retransmission of portions of corrupted messages that are unrecoverable, ...*" When requesting retransmission, the SCR 122 is performing an action equivalent to sending a negative acknowledgement. Thus, clearly, Lin discloses a technique exactly opposite to this concerned feature of claim 1.

The Examiner goes on to say, "*Lin et al. fails to disclose transmitting and receiving identical copies of data, and combining corrupted data to form a complete copy of the data.*"

The applicant would go even further than this and assert that in view of the above arguments, Lin also fails to disclose almost all of the other features of claim 1 besides these three features stated by the Examiner. Namely, Lin fails also to disclose "transmitting ACK when reconstructing a message successfully" and "not transmitting a NACK when receiving corrupted data block." Therefore, Lin is not an adequate reference for rejecting claim 1 since it fails to disclose all critical features of claim 1.

The Examiner continues the rejection of claim 1, "*But, Lundby discloses transmitting identical data to multiple users, column 2, line 4. Therefore, it would*

have been obvious to a person of ordinary skill in the art at the time the invention was made to use Lundby's transmitting and receiving identical data because this would have allowed the base station to make multiple transmissions with the same data content, column 2, lines 1-2."

Lundby discloses in column 1, line 67 to column 2, line 5, "*Hence, it could be said that the base station is wasting channel resources every time the base station makes multiple transmissions with the same data content. There is a present need in the art for a method and apparatus for transmitting identical or similar data to multiple users without using multiple channels.*" Thus, here, Lundby mentions multiple transmissions with the same data content to **multiple** users through multiple channels. This is not efficient from the system point of view, of course. That is the reason Lundby proposes the "multi-cast broadcasting" technique. In short, this passage has nothing to do with the concerned feature, "transmitting identical copies of data to the second peer, where only a **single** user is concerned."

The Examiner continues, "*The combination of Lin et al. and Lundby fails to disclose successively transmitting identical copies of data.*" The applicants agree with this conclusion that both Lin and Lundby fail to disclose this feature.

The Examiner goes on to say, "*But, Arnold discloses sequentially (successively) transmitted identical data packets, paragraph [0058], page 6, lines 17-20. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Arnold's successively transmitting and identical copies of data because this would have allowed the transmitting of identical data packets sequentially in time, paragraph [0058], page 6, lines 20-21.*"

However, since Lin discloses applying the error-correction algorithm

recursively to the original message until an error-tolerant message has been generated (Lin: column 4 lines 1-4), there would be no motivation to combine Arnold's successively transmitted identical data packets with Lin's teachings. Nevertheless, the applicant agrees that Arnold discloses "successively transmitted identical data packets".

The Examiner concludes the rejection of claim 1, "*Further, the combination of Lin et al. and Arnold fails to disclose corrupted data to form a complete copy of the data. But, Lundby discloses corrupted data to attain the original information, column 5, lines 35-36. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Lundby's combining corrupted data to form a complete copy of the data because this would have enabled the base station to transmit information to a remote station using a format where data was repeated in a packet, column 5, lines 33-35.*"

In this cited passage, Lundby says, "*As a simplistic example, if the channel conditions were bad, then the base station would transmit information to a remote station using a format where data symbols are repeated often in the packet. Hence, the receiving party could soft-combine any corrupted data symbols to attain the original information. However, if the channel conditions are good, then the base station could transmit information to a remote station using a format that does not repeat data symbols.*" Thus, what Lundby discloses here is a channel condition dependent scheme, and Lundby uses repeated data symbols, which can be understood as a data dispersal algorithm mentioned in Lin and is different from repeatedly transmitting the whole data block itself in claim 1. In claim 1, repeatedly transmitting the whole data block is simpler and is independent of channel conditions. Thus, the applicant does not agree that Lundby discloses this feature as deemed by the Examiner.

In summary for claim 1, the three cited prior art references do not disclose all of the features of claim 1, and claim 1 should be allowable over these three references.

Claims 3-12 and 27 are dependent claims of claim 1. If claim 1 is allowable as argued above, claims 3-12 and 27 shall also be allowable.

Claim 13 has also been amended to clarify the claimed invention. Claim 13 has been amended to recite:

wherein the first processor is capable of detecting an expected response of the data block at the first receiver, and accordingly stopping the successive transmission of identical copies of the data block at the first transmitter before the first transmitter finishes transmitting the first predetermined number of more than one identical copies of the data block.

Claim 13 is allowable over the combination of Lin, Lundby, and Arnold for the same reasons given above with respect to claim 1. Furthermore, the portions of claim 13 differing from claim 1 will be explained in greater detail below.

The Examiner has rejected claim 13 by stating Lin teaches the following features, "*wherein the first processor is capable of detecting* ***an expected response*** *(SCR 122 request retransmission of portions of corrupted messages, column 3, lines 61-62)*".

However, if Lin's retransmission request is equivalent to the claimed expected response, the claimed first processor should continue on sending the identical copies of the data block. There is no reason why the claimed first processor would disable (stop) the successive transmission. Thus, this comparison is not reasonable at all. To clarify this feature, claim 13 has been amended as shown below, "wherein the first processor is capable of detecting an

expected response of the data block at the first receiver, and accordingly stopping the successive transmission of identical copies of the data block at the first transmitter before the first transmitter finishes transmitting the first predetermined number of more than one identical copies of the data block".

The Examiner rejected the remaining portion of claim 1 by stating, "*of the data block at the first receiver, and* ***accordingly disabling the successive transmission*** *of identical copies of the data block (information dispersal algorithm applies the error correction algorithm recursively to the original message and subsequent by-products therefrom until the problems are overcome and an error-tolerant message has been generated, columns 3 and 4, lines 67 and 1-4 respectively) at the first transmitter.*"

Here, the Examiner has quoted lines that are about recursive error correction algorithm disclosed by Lin. But this quotation is irrelevant to disabling (stopping) successive transmission. Claim 13 claims that the first processor first controls the transmitter to successively transmit a predetermined number of identical copies of a data block. And before the predetermined number times of transmission of the data block is finished, an expected response is received (for example, an acknowledgement or a message responding to the data block), and the first processor can disable (stop or interrupt) further successive transmission of the data block because the expected message shows that the data block has been received correctly and further transmission of the data is not needed anymore.

As the three cited prior art references do not disclose these features of claim 13, claim 13 should be allowable over these three references.

Claims 14-18 are dependent claims of claim 13. If claim 13 is allowable as argued above, claims 14-18 shall also be allowable.

Claim 19 has been amended in a similar manner to claim 1, and now recites the feature "wherein the second transmitter transmits a response to the transmitting peer when the second processor forms a complete copy of the data block; and the second transmitter does not transmit a negative acknowledgement to the transmitting peer when the second receiver receives a corrupted data block."

As explained with respect to claim 1 above, Lin states in column 3, lines 44-50, "*Any one of these software applications, is expected to far exceed 4000 bytes in length. Hence the present method used by prior art systems in which an information dispersal algorithm is applied once to an original message for transmitting error-tolerant messages is not adequate for transmitting long messages in a radio communication system with a high bit-error rate.*" These two sentences are irrelevant to the claimed feature.

In fact, at column 3 lines 60-65, Lin says, "*Even in a two-way communication system, where the capability is available for the SCR's 122 to request retransmission of portions of corrupted messages that are unrecoverable, ...*" When requesting retransmission, the SCR 122 is performing an action equivalent to sending a negative acknowledgement. Thus, clearly, Lin discloses a technique exactly opposite to this concerned feature of claim 19. The other two prior art references of Lundby and Arnold fail to disclose this feature also. Therefore, claim 19 should be allowable over the three cited prior art references.

Claims 20-23, 25, and 26 are dependent claims of claim 19. If claim 19 is allowable as argued above, claims 20-23, 25, and 26 shall also be allowable.

Reconsideration of all pending claims 1, 3-23, and 25-27 is respectfully requested.

Conclusion

Thus, all pending claims are submitted to be in condition for allowance with respect to the cited art for at least the reasons presented above. The Examiner is encouraged to telephone the undersigned if there are informalities that can be resolved in a phone conversation, or if the Examiner has any ideas or suggestions for further advancing the prosecution of this case.

In view of the claim amendments and the above arguments in favor of patentability, the applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with me concerning any subject matter of this application by electronic mail. I understand that a copy of these communications will be made of record in the application file.

Sincerely yours,

/Winston Hsu/ Date: 08/12/2010

Winston Hsu, Patent Agent No. 41,526
P.O. BOX 506, Merrifield, VA 22116, U.S.A.
Voice Mail: 302-729-1562
Facsimile: 806-498-6673
e-mail : winstonhsu@naipo.com

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